

## REMARKS

This is a full and timely response to the final Office Action mailed January 23, 2006. Claims 1, 3 – 5, 7 – 12, 14, 16 – 18, 20 – 29, 31 – 40, 42 – 46, 48 – 52, 54 – 58, 60 – 64, and 66 – 105 remain pending. Specifically, claims 1, 7, 14, 20, 26, 31 – 32, 36, 42, 48, 54, 60, and 66 have been amended and claims 92 – 105 have been added. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

### **I. General Remarks**

Applicant is appreciative of the detailed remarks provided in the Office Action. Although Applicant addresses the claims individually below, it is believed that a number of general remarks may be beneficial in addressing the outstanding rejections to at least independent claims 1, 14, 26, 36, 48, and 60, which are alleged to be unpatentable over U.S. Patent No. 6,553,063 to Lin, *et al.* (“*Lin*”).

Specifically, the Office Action apparently alleges that *Lin* discloses that “pertinent details” are synchronized between transceivers, and that such “pertinent details” are equivalent to “the first look-up table” previously recited in Applicant’s claims.

However, *Lin* discloses, at most, that “constellation mapper 47 can employ constellation table 48 to map each vector into transmission symbol 50 that is a member of one or more *preselected* symbol alphabets.” (*Emphasis added*, col. 6, lines 26 – 28). Thus, even assuming, *arguendo*, that *Lin* discloses the synchronization of a fractional bit-rate to communicate between transceivers, Applicant emphasizes that *Lin* does not disclose, teach, or suggest the synchronization of tables, logic, or other information,

capable of being used to actually encode the data at that fractional bit-rate. Although not believed necessary, in an effort to advance prosecution, Applicant has made a number of amendments to the claims to further emphasize this distinction.

It should be apparent that Applicant's claimed embodiments can solve a different problem than that of *Lin*. Even assuming, *arguendo*, that *Lin* discloses synchronizing a bit rate to be used for communication between transceivers, Applicant maintains that the transceivers of *Lin* can benefit further by the addition of the claimed embodiments. That is, the capability of the *Lin* transceivers to communicate relies on each transceiver being able to decode and/or encode symbols at the selected bit-rate using the "preselected" symbol alphabets. That is, *Lin* apparently assumes that tables within the transceivers already contain such alphabets.

However, the existing constellation tables associated with a pair of source and destination transceivers may be completely or partially incompatible for the purpose of cooperatively encoding or decoding transmitted data. By adding the ability for information that can be used for encoding/decoding to be transmitted/received between the transceivers, the compatibility issues can be resolved. The transceivers of *Lin* are simply not disclosed as having such advantageous features.

It should be emphasized that the synchronization of the selection of which of the preselected symbol alphabets in a constellation table are to be used does not solve this incompatibility problem as alleged on page 5 of the Office Action. Rather, if the data inside the tables of a first transceiver is inoperable with the data of the tables of a second transceiver, such synchronization alleged to be disclosed in *Lin* provides no benefit in providing the ability for the two transceivers to communicate.

**I. Claims 1, 7 – 9, 11 – 12, 14, 20 – 22, 24 – 26, 31 – 33, 35 – 36, 40, 42 - 43, 48, 52, 54 - 55, 60, 64, 66 - 67, 71 – 82 and 87 are Patentable Over *Lin***

The Office Action rejects claims 1 – 2, 7 – 9, 11 – 12, 14 – 15, 20 – 22, 24 – 26, 31 – 33, 35 – 36, 40, 42 - 43, 48, 52, 54 - 55, 60, 64, 66 - 67, 71 – 82 and 87 under 35 U.S.C. §103(a) as being allegedly unpatentable over U.S. Patent No. 6,553,063 to Lin, *et al.* (“*Lin*”). For at least the reasons set forth below, the rejection should be withdrawn and the claims allowed.

***Independent Claim 1***

Applicant submits that independent claim 1 is patentable over *Lin* for at least the reason that *Lin* does not disclose, teach, or suggest every feature of claim 1.

For example, the Applicant respectfully submits that independent claim 1 defines over *Lin* for at least the reason that *Lin* fails to disclose, teach, or suggest “receiving information from a destination transceiver, the information comprising ***logic for encoding an integer number of bits into a plurality of symbols***” as recited in independent claim 1.

*Lin* discloses, at most, that “constellation mapper 47 can employ constellation table 48 to map each vector into transmission symbol 50 that is a member of one or more ***preselected*** symbol alphabets.” (*Emphasis added*, col. 6, lines 26 – 28). Thus, even assuming, *arguendo*, that *Lin* discloses the synchronization of a fractional bit-rate between transceivers, Applicant emphasizes that *Lin* does not disclose, teach, or suggest “receiving information from a destination transceiver, the information comprising logic for encoding an integer number of bits into a plurality of symbols” as recited in claim 1.

Thus, *Lin*, does not teach, or render obvious, the steps of “receiving information from a destination transceiver, the information comprising logic for encoding an integer number of bits into a plurality of symbols,” nor “encoding an integer number of bits into the plurality of symbols using the logic received from the destination transceiver” as recited in claim 1.

Accordingly, independent claim 1 should be allowed for at least these reasons. Furthermore, because independent claim 1 is allowable over *Lin*, dependent claims 3 – 5, 7 – 12, 71 – 72, and 92 - 93 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 1, from which they depend.

#### ***Independent Claim 14***

The Office Action alleges “claim 14 is rejected on the same ground as for claim 1.” (Office Action, page 13). However, Applicant submits that independent claim 14 is patentable over *Lin* for at least the reason that *Lin* does not disclose, teach, or suggest every feature of claim 14.

For example, the Applicant respectfully submits that independent claim 14 defines over *Lin* for at least the reason that *Lin* fails to disclose or otherwise teach “means for receiving information from a destination transceiver, the information comprising ***logic for encoding an integer number of bits into a plurality of symbols***” as recited in independent claim 14.

*Lin* discloses, at most, that “constellation mapper 47 can employ constellation table 48 to map each vector into transmission symbol 50 that is a member of one or more

*preselected* symbol alphabets.” (*Emphasis added*, col. 6, lines 26 – 28). Thus, even assuming, *arguendo*, that *Lin* discloses the synchronization of a fractional bit-rate between transceivers, Applicant emphasizes that *Lin* does not disclose, teach, or suggest “means for receiving information from a destination transceiver, the information comprising logic for encoding an integer number of bits into a plurality of symbols” as recited in claim 14.

Thus, *Lin*, does not teach, or render obvious, “means for receiving information from a destination transceiver, the information comprising logic for encoding an integer number of bits into a plurality of symbols” nor “means for encoding, based on the information from the destination transceiver, an integer number of bits into the plurality of symbols using the logic received from the destination transceiver” as recited in claim 14.

Accordingly, independent claim 14 should be allowed for at least these reasons. Furthermore, because independent claim 14 is allowable over *Lin*, dependent claims 16 – 25, 73 - 74 and 94 – 95 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 14, from which they depend.

### ***Independent Claim 26***

Applicant submits that independent claim 26 is patentable over *Lin* for at least the reason that *Lin* does not disclose, teach, or suggest every feature of claim 26.

For example, the Applicant respectfully submits that independent claim 26 defines over *Lin* for at least the reason that *Lin* fails to disclose, teach, or suggest “a receiver adapted to receive information from a destination transceiver, the information comprising

*logic for encoding an integer number of bits into a plurality of symbols*” as recited in independent claim 26.

*Lin* discloses, at most, that “constellation mapper 47 can employ constellation table 48 to map each vector into transmission symbol 50 that is a member of one or more *preselected* symbol alphabets.” (*Emphasis added*, col. 6, lines 26 – 28). Thus, even assuming, *arguendo*, that *Lin* discloses the synchronization of a fractional bit-rate between transceivers, Applicant emphasizes that *Lin* does not disclose, teach, or suggest “a receiver adapted to receive information from a destination transceiver, the information comprising logic for encoding an integer number of bits into a plurality of symbols” as recited in claim 26.

Thus, *Lin*, does not teach, or render obvious, “a receiver adapted to receive information from a destination transceiver, the information comprising logic for encoding an integer number of bits into a plurality of symbols” nor “a fractional encoder associated with the receiver, the fractional encoder adapted to encode the integer number of bits into a plurality of symbols based on the logic received from the destination transceiver” as recited in claim 26.

Accordingly, independent claim 26 should be allowed for at least these reasons. Furthermore, because independent claim 26 is allowable over *Lin*, dependent claims 27 – 29, 31 – 35, 75 – 76 and 96 - 97 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 26, from which they depend.

### ***Independent Claim 36***

Applicant submits that independent claim 36 is patentable over *Lin* for at least the reason that *Lin* does not, disclose, teach, or suggest every feature of claim 36.

For example, the Applicant respectfully submits that independent claim 36 defines over *Lin* for at least the reason that *Lin* fails to disclose, teach, or suggest “providing information to a source transceiver, the information comprising information capable of being used to determine a fractional bit rate and ***comprising logic adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols***” as recited in independent claim 36.

*Lin* discloses, at most, that “constellation mapper 47 can employ constellation table 48 to map each vector into transmission symbol 50 that is a member of one or more ***preselected*** symbol alphabets.” (*Emphasis added*, col. 6, lines 26 – 28). Thus, even assuming, *arguendo*, that *Lin* discloses the synchronization of a fractional bit-rate between transceivers, Applicant emphasizes that *Lin* does not disclose, teach, or suggest “providing information to a source transceiver, the information comprising information capable of being used to determine a fractional bit rate and comprising logic adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols” as recited in claim 36.

Thus, *Lin*, does not teach, or render obvious, the step of “providing information to a source transceiver, the information comprising information capable of being used to determine a fractional bit rate and comprising logic adapted to enable the source

transceiver to encode an integer number of bits into a plurality of symbols” as recited in claim 36.

Furthermore, because independent claim 36 is allowable over *Lin*, dependent claims 37 – 40, 42 – 46, 77, and 98 – 99 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 36, from which they depend.

#### ***Independent Claim 48***

Applicant submits that independent claim 48 is patentable over *Lin* for at least the reason that *Lin* does not disclose, teach, or suggest every feature of claim 48.

For example, the Applicant respectfully submits that independent claim 48 defines over *Lin* for at least the reason that *Lin* fails to disclose, teach, or suggest “means for providing information to a source transceiver, ***the information comprising information capable of being used to determine a fractional bit rate and comprising logic adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols***” as recited in independent claim 48.

*Lin* discloses, at most, that “constellation mapper 47 can employ constellation table 48 to map each vector into transmission symbol 50 that is a member of one or more ***preselected*** symbol alphabets.” (*Emphasis added*, col. 6, lines 26 – 28). Thus, even assuming, *arguendo*, that *Lin* discloses the synchronization of a fractional bit-rate between transceivers, Applicant emphasizes that *Lin* does not disclose, teach, or suggest “means for providing information to a source transceiver, the information comprising information capable of being used to determine a fractional bit rate and comprising logic



adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols” as recited in claim 48.

Thus, *Lin*, does not teach, or render obvious, the element of “means for providing information to a source transceiver, the information capable of being used to determine a fractional bit rate and comprising logic adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols” as recited in claim 48.

Accordingly, independent claim 48 should be allowed for at least these reasons. Furthermore, because independent claim 48 is allowable over *Lin*, dependent claims 49 – 52, 54 – 58, 87 and 100 – 101 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 48, from which they depend.

#### ***Independent Claim 60***

Applicant submits that independent claim 60 is patentable over *Lin* for at least the reason that *Lin* does not disclose, teach, or suggest every feature of claim 60.

Applicant submits that independent claim 60 is patentable over *Lin* for at least the reason that *Lin* does not disclose, teach, or suggest every feature of claim 60.

For example, the Applicant respectfully submits that independent claim 60 defines over *Lin* for at least the reason that *Lin* fails to disclose, teach, or suggest “a transmitter adapted to provide information to a source transceiver, ***information capable of being used to determine a fractional bit rate and comprising logic adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols***” as recited in independent claim 60.

*Lin* discloses, at most, that “constellation mapper 47 can employ constellation table 48 to map each vector into transmission symbol 50 that is a member of one or more ***preselected*** symbol alphabets.” (*Emphasis added*, col. 6, lines 26 – 28). Thus, even assuming, *arguendo*, that *Lin* discloses the synchronization of a fractional bit-rate between transceivers, Applicant emphasizes that *Lin* does not disclose, teach, or suggest “a transmitter adapted to provide information to a source transceiver, information capable of being used to determine a fractional bit rate and comprising logic adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols” as recited in claim 60.

Thus, *Lin*, does not teach, or render obvious, the element of “a transmitter adapted to provide information to a source transceiver, information capable of being used to determine a fractional bit rate and comprising logic adapted to enable the source transceiver to encode an integer number of bits into a plurality of symbols” as recited in claim 60.

Accordingly, independent claim 60 should be allowed for at least these reasons. Furthermore, because independent claim 60 is allowable over *Lin*, dependent claims 61 – 64, 66- 69, 70, 82, and 102 - 103 are allowable as a matter of law for at least the reason that they contain all the features and elements of independent claim 60, from which they depend.

***Dependent Claims 7 – 9, 11 – 12, 20 – 22, 24 – 25, 31 – 33, 35, 40, 42 - 43, 52, 54 - 55, 64, 66 - 67, 71 – 82, and 87***

The Applicant submits that dependent claims 7 – 9, 11 – 12, 20 – 22, 24 – 25, 31 – 33, 35, 40, 42 - 43, 52, 54 - 55, 64, 66 - 67, 71 – 82 and 87 are patentable over *Lin* for at

least the reasons set forth above with respect to their corresponding independent claims. Accordingly, claims 7 – 9, 11 – 12, 20 – 22, 24 – 25, 31 – 33, 35, 40, 42 – 43, 52, 54 – 55, 64, 66 – 67, 71 – 82 and 87 are allowable for at least the reason that they depend from their respective base claim, each of which are believed to be allowable as set forth above.

**III. Claims 3 – 4, 16 – 17, 27 – 28, 37 – 38, 44 – 45, 49 – 50, 56 – 57, 61 – 62, 68 – 69, 83 – 84 and 88 – 89 are Patentable Over *Lin and Wei* in View of *Williams***

The Office Action also rejects claims 3 – 4, 16 – 17, 27 – 28, 37 – 38, 44 – 45, 49 – 50, 56 – 57, 61 – 62, 68 – 69, 83 – 84 and 88 – 89 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Lin* and U.S. Patent No. 5,559,561 to Wei (“*Wei*”) in view of U.S. Patent No. 5,995,548 to Williams (“*Williams*”). However, the Applicant submits that the rejection to dependent claims 3 – 4, 16 – 17, 27 – 28, 37 – 38, 44 – 45, 49 – 50, 56 – 57, 61 – 62, 68 – 69, 83 – 84 and 88 – 89 is rendered moot in light of the arguments made above and, therefore, claims 3 – 4, 16 – 17, 27 – 28, 37 – 38, 44 – 45, 49 – 50, 56 – 57, 61 – 62, 68 – 69, 83 – 84 and 88 – 89 are allowable as a matter of law for at least the reason that claims 3 – 4, 16 – 17, 27 – 28, 37 – 38, 44 – 45, 49 – 50, 56 – 57, 61 – 62, 68 – 69, 83 – 84 and 88 – 89 contain all the features and elements of their corresponding independent claims.

**IV. Claims 5, 18, 29, 39, 46, 51, 58, 63, 70, 85 and 90 are Patentable Over *Lin and Wei* in View of *Brownlie***

The Office Action also rejects claims 5, 18, 29, 39, 46, 51, 58, 63, 70, 85 and 90 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Lin* and *Wei* in view of U.S. Patent No. 5,493,586 to Brownlie (“*Brownlie*”). However, the Applicant submits that the rejection to dependent claims 5, 18, 29, 39, 46, 51, 58, 63, 70, 85 and 90 is rendered moot

in light of the arguments made above and, therefore, claims 5, 18, 29, 39, 46, 51, 58, 63, 70, 85 and 90 are allowable as a matter of law for at least the reason that claims 5, 18, 29, 39, 46, 51, 58, 63, 70, 85 and 90 contain all the features and elements of their corresponding independent claims.

**V. Claims 10, 23, 34, 86 and 91 are Patentable Over *Lin and Wei* in View of *Eyuboglu***

The Office Action also rejects claims 10, 23, 34, 86 and 91 under 35 U.S.C. §103(a) as being allegedly unpatentable over *Lin and Wei* in view of U.S. Patent No. 5,214,672 to Eyuboglu (“*Eyuboglu*”). However, the Applicant submits that the rejection to dependent claims 10, 23, 34, 86 and 91 is rendered moot in light of the arguments made above and, therefore, claims 10, 23, 34, 86 and 91 are allowable as a matter of law for at least the reason that claims 10, 23, 34, 86 and 91 contain all the features and elements of their corresponding independent claims.

**VI. Prior Art Made of Record**

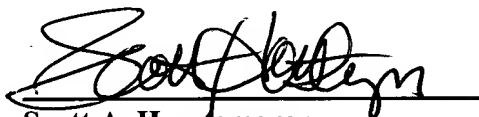
The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

### CONCLUSION

The Applicant respectfully submits that all claims are now in condition for allowance, and request that the Examiner pass this case to issuance. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

No fee is believed to be due in connection with this response. If, however, any fee is deemed to be payable, you are hereby authorized to charge any such fee to Deposit Account No. 20-0778.

Respectfully submitted,

  
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